

# SCHMERSAL Tech Briefs:

## RK & NK Joysticks



### Overview

The RK/NK joystick operators offer a unique non-contact switching system using low-wear reed contacts. The RK/NK joystick switches withstand ambient temperatures of between -40 °C and +80 °C. They are also characterized by high degrees of protection, IP69K in front of the front plate and IP67 for the contact chamber.

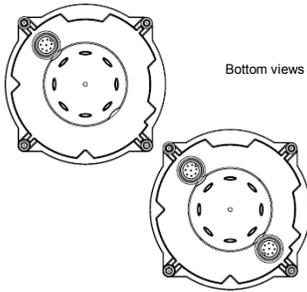
One particular feature of the NK/RK range is the clever sealing system with up to three barriers to prevent the ingress of liquids, even if the sealing bellows are damaged. This increases plant availability, as there is sufficient time to replace the bellows without the reed contacts or machine being damaged.

The RK/NK joystick are easy to install using a central nut using a standard pipe wrench. The electrical connection is via a standard M12 connection which guarantees simple, error-free installation. This new series of joysticks also has a variety of uses: because of their hygiene-compliant design, the NK joystick switches are perfect for the food processing industry. The RK joystick switches are ideal for use in the outdoor sector and under difficult environmental conditions, such as systems in process technology, utility vehicles, aircraft tractors and lifting platforms.

The NK joysticks for the food industry use blue sealing material so that they can be identified as foreign bodies by optical systems in the event of a device error. Grey sealing material is used on the RK joysticks for industrial and outdoor applications.

The spring-returned RK/NK joysticks allow operators to move in up to four directions: forwards, backwards, right, and left. Maintained operation, and combined spring-return/maintained will be available – please consult factory for more information.

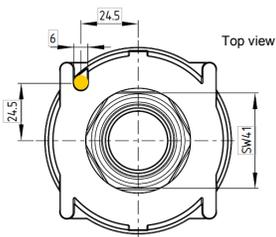
### Features



Bottom views

#### Quick Connection

1 NO models offer 1 M12, 8 pin connector,  
2 NO models have 2 M12, 8 pin connectors.



Top view

#### Anti-twist pinning

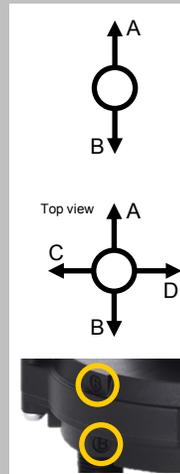
To ensure the contact compartment maintains the correct orientation, a Ø 5 x 6 mm stud should be welded on to the mounting plate at a distance of 24.5 x 24.5 mm from the center of the installation hole.

### Directional Labeling, Orientation

2 direction joysticks are labeled A & B.  
4 direction joysticks are labeled A & B with C & D offset 90 degrees.

Commonly, direction A is forward, B is back. But the base can be rotated 90 degrees to become A left/B right, or even A right/B left. Installers must be aware of the orientation of the base for the correct actuation directions of the application.

The direction of actuation is clearly marked on the base of the joystick with the letters A, B, C, and D. Consult the operating instructions for the correct association of the direction label and wiring pins.



### Applications

- RK Joystick (grey bellows)**
- Outdoor equip/vehicles
  - Chemical processing
  - Marine applications

- NK Joystick (blue bellows)**
- Food processing
  - Pharmaceutical
  - Medical

### Available Literature



Joystick switches RK / NK brochure, 8 pages

### Ordering Details

#### Spring returned with grey bellows RK-T-21-1ST8-2

2 direction (forward, back)  
1 NO contact per direction  
1 M12-8 pin connector

#### RK-T-22-2ST8-2

2 direction (forward, back)  
2 NO contacts per direction  
2 M12-8 pin connectors

#### RK-T-41-1ST8-2

4 direction (forward, back, left , right)  
1 NO contact per direction  
1 M12-8 pin connector

#### RK-T-42-2ST8-2

4 direction (forward, back, left , right)  
2 NO contacts per direction  
2 M12-8 pin connectors

#### Spring returned with blue bellows NK-T-21-1ST8-2

2 direction (forward, back)  
1 NO contact per direction  
1 M12-8 pin connector

#### NK-T-22-2ST8-2

2 direction (forward, back)  
2 NO contacts per direction  
2 M12-8 pin connectors

#### NK-T-41-1ST8-2

4 direction (forward, back, left , right)  
1 NO contact per direction  
1 M12-8 pin connector

#### NK-T-42-2ST8-2

4 direction (forward, back, left , right)  
2 NO contacts per direction  
2 M12-8 pin connectors

### Accessories

#### Connector cables (M12, 8 Pin, IP69K)

**101210560** 5 m cable, straight  
**101210561** 5 m cable, angled  
**103001389** 10 m cable, straight

#### Compatible Safety Controllers

**SRB-E-201LC**                    **SRB-E-322ST**  
**SRB-E-201ST**                   **SRB-E-402ST**  
**SRB-E-301ST**                   **SRB-301MC**  
**SRB-E-212ST**

*Bold part numbers are regularly stocked*



#### Hygienic design

Chemical-resistant and food-safe materials, smooth transitions, and IP69K rating for wash down applications.

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